



SEQUENCE LISTING

<110> Bougueleret, Lydie
Bairoch, Amos
Niknejad, Anne

<120> Engineered Human Kunitz-Type Protease
Inhibitor

<130> 54720-8015.US00

<140> US 10/807,204
<141> 2004-03-22

<150> PCT/EP03/01629
<151> 2003-02-18

<150> US 60/358,683
<151> 2002-02-21

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Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln Cys
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Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe Ser
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Cys Gly Lys Lys Cys Leu Asp Phe Arg Lys Asp Ile Cys Ser Met Pro
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Gln Glu Ala Gly Pro Cys Leu Ala Ser Ile Pro His Trp Trp Tyr Asn
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Pro Cys Pro Lys Ile Lys Val Glu Cys

35

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catgtgggtg ctgtgatcag	caggcccaga	taagctctga	ctgatagcca	gcatcaattt	9731
cagccatgca aatgagatgc	ccaaaccaat	agagccttca	gatggctgc	gccccagcag	9791
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cccaggact ttgggagttc	aaggcaggca	gataactt	agtcaaga	tcaagaccag	10031
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tcaaaaaaaaaa aaaaagaaag	aaaaaaaaga	tgaaaaggaa	gtagaaggaa	ggatagggag	10271
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caaataagtt tttgtttaa	tataacttgg	atcaagggc	tctaaagagg	ctggaaatca	10451
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gattgttaga aactctaaag	gcactgcaaa	aaaaggttag	aattaataaa	caaatttatt	10571
aaagttacag gataaaaaat	caacatacaa	aaatcaatag	caactttata	caccaagaac	10631
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aataaatgaa aagacatcca	tgctcataga	ttagaagaat	caatgttgc	aaaatgttcca	10811

cactacccaa agcaatctac agagcacatg caatttctgc caaaatgcca atggcatttt 10871
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<212> PRT
<213> Homo sapiens

<400> 4
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Gly Asp Ile Gln Glu Pro Gly His Ala Glu Gly Ile Leu Gly
20 25 30

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<211> 43
<212> PRT
<213> Homo sapiens

<400> 5
Pro Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln
1 5 10 15
Cys Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe
20 25 30
Ser Cys Gly Lys Lys Cys Leu Asp Phe Arg Lys
35 40

<210> 6
<211> 24
<212> PRT
<213> Homo sapiens

<400> 6
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1 5 10 15
Pro His Trp Trp Tyr Asn Lys Lys
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<210> 7
<211> 33
<212> PRT
<213> Homo sapiens

<400> 7
Thr Lys Ile Cys Ser Glu Phe Ile Tyr Gly Gly Ser Gln Gly Asn Asn
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His

<210> 8

<211> 1339
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 <213> Homo sapiens

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<221> CDS
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<221> CDS
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 <223> partial

<221> polyA_signal
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1	5							10						15		

ggg gac atc cag gaa cct ggg cac gct gaa ggc atc ctt ggc aag ccg
 Gly Asp Ile Gln Glu Pro Gly His Ala Glu Gly Ile Leu Gly Lys Pro
 20 25 30 96

tgt ccc aaa atc aaa gtg gaa tgc gaa gtg gaa gaa ata gac cag tgt
 Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln Cys
 35 40 45 144

acc aaa ccc aga gat tgc cca gaa aac atg aag tgt tgc ccg ttc agc
 Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe Ser
 50 55 60 192

cgt gga aag aaa tgt tta gac ttc aga aag gat ata tgc agt atg cca
 Arg Gly Lys Lys Cys Leu Asp Phe Arg Lys Asp Ile Cys Ser Met Pro
 65 70 75 80 240

cag gag gct ggc ccc tgc ctg gcc tcc ata cca cac tgg tgg tac aat
 Gln Glu Ala Gly Pro Cys Leu Ala Ser Ile Pro His Trp Trp Tyr Asn
 85 90 95 288

aaa aaa a act aag atc tgc tcc gaa ttc atc tat ggc ggt agc cag ggg
 Lys Lys Thr Lys Ile Cys Ser Glu Ile Tyr Gly Gly Ser Gln Gly
 100 105 110 337

aac aat aac aac ttc caa act gaa gct atc tgt ctg gtc acc tgc aaa
 Asn Asn Asn Asn Phe Gln Thr Glu Ala Ile Cys Leu Val Thr Cys Lys
 385

115

120

125

aaa tac cat aagtcccaga ggtcccggtc tcctgtgctc accaaggcca	434
Lys Tyr His	
130	

cactgggagg tctgggtgtt ggctggtcta ttccaaagacc tgggtggcgc tggggatgac	494
aaaaccagct ccaatgcaga agtataagta gaaggatatt ttgggaaaga gggtgggaag	554
ggagggattt gtcaaaggaa tattggcaag tatgagggtga gtagtgggtg tagagagaaa	614
acagaagtgg tggagtatcc cagaccaggc cagacggaaag cccggtaaac ccagcccagc	674
cctgggcacc attcatcagc caatcattat agtccttac ttctactaa accttgggtc	734
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accaaatac ttttggaaagt gtctcaagggt gaggtgccat taatttattac actgagacaa	854
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<211> 98

<212> PRT

<213> Homo sapiens

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20 25 30	
Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln Cys	
35 40 45	
Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe Ser	
50 55 60	
Arg Gly Lys Lys Cys Leu Asp Phe Arg Lys Asp Ile Cys Ser Met Pro	
65 70 75 80	
Gln Glu Ala Gly Pro Cys Leu Ala Ser Ile Pro His Trp Trp Tyr Asn	
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Lys Lys	

<210> 10

<211> 33

<212> PRT

<213> Homo sapiens

<400> 10

Thr Lys Ile Cys Ser Glu Phe Ile Tyr Gly Gly Ser Gln Gly Asn Asn	
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His	

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 <213> Homo sapiens

<220>
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<221> CDS
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<400> 11

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1 5 10 15	
ggg gac atc cag gaa cct ggg cac gct gaa ggc atc ctt ggc aag ccg	96
Gly Asp Ile Gln Glu Pro Gly His Ala Glu Gly Ile Leu Gly Lys Pro	
20 25 30	
tgt ccc aaa atc aaa gtg gaa tgc gaa gtg gaa gaa ata gac cag tgt	144
Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln Cys	
35 40 45	
acc aaa ccc aga gat tgc cca gaa aac atg aag tgt tgc ccg ttc agc	192
Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe Ser	
50 55 60	
cgt gga aag aaa tgt tta gac ttc aga aag gat ata tgc agt atg cca	240
Arg Gly Lys Lys Cys Leu Asp Phe Arg Lys Asp Ile Cys Ser Met Pro	
65 70 75 80	
cag gag gct ggc ccc tgc ctg gcc tcc ata cca cac tgg tgg tac aat	288
Gln Glu Ala Gly Pro Cys Leu Ala Ser Ile Pro His Trp Trp Tyr Asn	
85 90 95	
aaa aaa act aag atc tgc tcc gaa ttc atc tat ggc ggt tgc cag ggg	336
Lys Lys Thr Lys Ile Cys Ser Glu Phe Ile Tyr Gly Gly Cys Gln Gly	
100 105 110	
aac aat aac aac ttc caa act gaa gct atc tgt ctg gtc acc tgc aaa	384
Asn Asn Asn Asn Phe Gln Thr Glu Ala Ile Cys Leu Val Thr Cys Lys	
115 120 125	
aaa tac cat taa	396
Lys Tyr His *	
130	

<210> 12
 <211> 131
 <212> PRT
 <213> Homo sapiens

<400> 12

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 Gly Asp Ile Gln Glu Pro Gly His Ala Glu Gly Ile Leu Gly Lys Pro
 20 25 30
 Cys Pro Lys Ile Lys Val Glu Cys Glu Val Glu Glu Ile Asp Gln Cys
 35 40 45
 Thr Lys Pro Arg Asp Cys Pro Glu Asn Met Lys Cys Cys Pro Phe Ser
 50 55 60
 Cys Gly Lys Lys Cys Leu Asp Phe Arg Lys Asp Ile Cys Ser Met Pro
 65 70 75 80
 Gln Glu Ala Gly Pro Cys Leu Ala Ser Ile Pro His Trp Trp Tyr Asn
 85 90 95
 Lys Lys Thr Lys Ile Cys Ser Glu Phe Ile Tyr Gly Gly Cys Gln Gly
 100 105 110
 Asn Asn Asn Asn Phe Gln Thr Glu Ala Ile Cys Leu Val Thr Cys Lys
 115 120 125
 Lys Tyr His
 130

<210> 13
 <211> 133
 <212> PRT
 <213> Homo sapiens

<400> 13
 Met Gly Ser Ser Gly Leu Leu Ser Leu Leu Val Leu Phe Val Leu Leu
 1 5 10 15
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 20 25 30
 Cys Pro Lys Ile Arg Glu Glu Cys Glu Phe Gln Glu Arg Asp Val Cys
 35 40 45
 Thr Lys Asp Arg Gln Cys Gln Asp Asn Lys Lys Cys Cys Val Phe Ser
 50 55 60
 Cys Gly Lys Lys Cys Leu Asp Leu Lys Gln Asp Val Cys Glu Met Pro
 65 70 75 80
 Lys Glu Thr Gly Pro Cys Leu Ala Tyr Phe Leu His Trp Trp Tyr Asp
 85 90 95
 Lys Lys Asp Asn Thr Cys Ser Met Phe Val Tyr Gly Gly Cys Gln Gly
 100 105 110
 Asn Asn Asn Phe Gln Ser Lys Ala Asn Cys Leu Asn Thr Cys Lys
 115 120 125
 Asn Lys Arg Phe Pro
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<210> 14
 <211> 134
 <212> PRT
 <213> Mus musculus

<400> 14
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 1 5 10 15
 Ala Arg Val Gln Gly Pro Ser Leu Ala Asp Leu Leu Phe Pro Arg Arg
 20 25 30
 Cys Pro Arg Phe Arg Glu Glu Cys Glu His Gln Glu Arg Asp Leu Cys
 35 40 45
 Thr Arg Asp Arg Asp Cys Pro Lys Lys Glu Lys Cys Cys Val Phe Asn

50	55	60													
Cys	Gly	Lys	Lys	Cys	Leu	Asn	Pro	Gln	Gln	Asp	Ile	Cys	Ser	Leu	Pro
65					70					75					80
Lys	Asp	Ser	Gly	Tyr	Cys	Met	Ala	Tyr	Phe	Arg	Arg	Trp	Trp	Phe	Asn
						85			90					95	
Lys	Glu	Asn	Ser	Thr	Cys	Gln	Val	Phe	Ile	Tyr	Gly	Gly	Cys	Gln	Gly
						100			105					110	
Asn	Asn	Asn	Phe	Gln	Ser	Gln	Ser	Ile	Cys	Gln	Asn	Ala	Cys	Glu	
						115			120					125	
Lys	Lys	Ser	Ser	Leu	Thr										
					130										

<210> 15

<211> 131

<212> PRT

<213> Homo sapiens

<400> 15

Met	Gly	Leu	Ser	Gly	Leu	Leu	Pro	Ile	Leu	Val	Pro	Phe	Ile	Leu	Leu
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Gly	Asp	Ile	Gln	Glu	Pro	Gly	His	Ala	Glu	Gly	Ile	Leu	Gly	Lys	Pro
						20			25					30	
Cys	Pro	Lys	Ile	Lys	Val	Glu	Cys	Glu	Val	Glu	Glu	Ile	Asp	Gln	Cys
						35			40					45	
Thr	Lys	Pro	Arg	Asp	Cys	Pro	Glu	Asn	Met	Lys	Cys	Cys	Pro	Phe	Ser
						50			55					60	
Arg	Gly	Lys	Lys	Cys	Leu	Asp	Phe	Arg	Lys	Asp	Ile	Cys	Ser	Met	Pro
						65			70					80	
Gln	Glu	Ala	Gly	Pro	Cys	Leu	Ala	Ser	Ile	Pro	His	Trp	Trp	Tyr	Asn
						85			90					95	
Lys	Lys	Thr	Lys	Ile	Cys	Ser	Glu	Phe	Ile	Tyr	Gly	Gly	Ser	Gln	Gly
						100			105					110	
Asn	Asn	Asn	Asn	Phe	Gln	Thr	Glu	Ala	Ile	Cys	Leu	Val	Thr	Cys	Lys
						115			120					125	
Lys	Tyr	His													
		130													

<210> 16

<211> 136

<212> PRT

<213> Mus musculus

<400> 16

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Trp	Ser	Ile	Gln	Glu	Pro	Glu	Leu	Ala	Glu	Gly	Phe	Phe	Ile	Arg	Thr
						20			25					30	
Cys	Pro	Arg	Val	Arg	Val	Lys	Cys	Glu	Val	Glu	Glu	Arg	Asn	Glu	Cys
						35			40					45	
Thr	Arg	His	Arg	Gln	Cys	Pro	Asn	Lys	Lys	Arg	Cys	Cys	Leu	Phe	Ser
						50			55					60	
Cys	Gly	Lys	Lys	Cys	Met	Asp	Leu	Arg	Gln	Asp	Val	Cys	Ser	Leu	Pro
						65			70					80	
Gln	Asp	Pro	Gly	Pro	Cys	Leu	Ala	Tyr	Leu	Pro	Arg	Trp	Trp	Tyr	Asn
						85			90					95	
Gln	Glu	Thr	Asp	Leu	Cys	Thr	Glu	Phe	Ile	Tyr	Gly	Gly	Cys	Gln	Gly
						100			105					110	

Asn Pro Asn Asn Phe Pro Ser Glu Gly Ile Cys Thr Val Val Cys Lys
115 120 125
Lys Lys Gln Met Ser Ser Trp Ile
130 135